

Tennessee Gas Project – Loop Within Highlands Region
Issues Raised by Members of the Public and Highlands Council Members at the
January 19, 2012 Meeting of the Highlands Council and Council Staff Response

This document identifies issues raised by the public and by Highlands Council members at the Highlands Council meeting of January 19, 2012 and provides Council Staff responses regarding the Tennessee Gas Project – Loop Within the Highlands Region. This document supplements the response to written comments, which were accepted by the Highlands Council through the close of the Public Comment period on January 6, 2012, regarding the Highlands Council Draft Consistency Determination for the project. The issues have been organized by general topic to help the public and the Highlands Council easily review the nature of the comments on each issue and the extent to which they differ or provide similar recommendations. This document is provided for informational purposes to help clarify facts and evaluations regarding the proposal. The Tennessee Gas proposal has not been modified in any substantive way and therefore the public comment period has not been re-opened.

ISSUE 1: NORTHEAST UPGRADE PROJECT (NEUP) – IDENTIFY MITIGATION FOR IMPACTS:

A request was made to specifically identify mitigation measures for impacts resulting from implementation of the proposed Northeast Upgrade Project.

RESPONSE TO ISSUE 1:

The proposed project integrates a **Comprehensive Mitigation Plan (CMP)** as an integral component. The purpose of the CMP is to set forth a general plan of construction and restoration by which project implementation would avoid, minimize and mitigate any impacts to Highlands Resources so that there will be no net loss of such resources, consistent with the Highlands Regional Master Plan (RMP). It provides an approach and process for identifying the specific resource issues, the means to avoid and minimize the specific impact, and ultimately, the ability to define ways that would help mitigate unavoidable environmental impacts. The combined effect of these plans is intended to effectively deal with the proposed project as a whole unit. As a condition of approval (new to the Northeast Upgrade Project, or NEUP), the CMP shall include an assessment of the potential impacts of foreseeable but low-probability events, such as major weather or other catastrophic events, including but not limited to impacts such as slope failure, failure of sediment and erosion control measures, and silt and mud deposition into lakes and other waterbodies. In addition, the CMP will include a contingency plan to address such foreseeable but low-probability events and their impacts, including pre-planning, event management and restoration. Environmental Inspectors (EIs) would be on-site during construction activities to ensure compliance with the CMP, as well as requirements of all applicable federal, State and local environmental permits and approvals. Highlands Council will continue to receive reports from these Environmental Inspectors. The CMP will be effectuated through site plans, construction designs and permit reviews by various agencies, and does not in itself constitute a construction-ready document, which was beyond the scope of Highlands Council review.

The following text provides a simplified overview of the critical mitigation requirements as depicted in the Northeast Upgrade Project CMP and summarized in the Highlands Council Consistency Determination (CD) for NEUP:

UPLAND FORESTS:

Estimated *temporary* disturbance of **86.1 acres** and *permanent* disturbance of **15.8 acres**.

- **Reforestation Plan**

- Restoration planting within disturbances of upland forests. Tennessee Gas commits to complying with the seeding recommendation outlined in the New Jersey No Net Loss Act for all land (whether state-owned or not within the Highlands Region). This commitment constitutes an increased commitment to the discussion in the original CD.

- Post-construction monitoring of all forested areas affected by construction for a minimum of three years.
- Restoration considered successful if the density and cover of non-nuisance vegetation are similar in density and cover to adjacent undisturbed land, with replanting as necessary.
- **Mitigation Through Offsetting Land Acquisition**
 - *Temporary disturbance*: A disturbance to mitigation ratio of **1.25:1** required; target is **107.6** acres.
 - *Permanent impacts*: A disturbance to mitigation ratio of **2.5:1** required for forests of medium quality (based on disturbance of edge forest along the right of way); target is **39.5** acres but applicant proposed acquisition of 50 acres designated as Highlands Forest Resource Area.
 - *Focus*: northern Highlands Region (preferably in affected municipalities); Preservation Area and Planning Area; high Conservation Priority lands; and contiguity with existing preserved lands. If the applicant cannot find suitable lands to purchase, the Highlands Council will attempt to do so before agreeing to accept monetary compensation. Monetary compensation (if approved) will be determined using comparable land prices in the NEUP area (see Issue #3).

HIGHLANDS OPEN WATERS AND RIPARIAN AREAS:

The applicant commits to the timely restoration of the Highlands Open Waters Buffers:

- Minimize the amount of tree clearing to the maximum extent practicable.
- Reduced right of way clearing and disturbance in wetlands and stream corridors.
- Disturbed stream and lake bottom materials shall be restored to the maximum feasible extent to ensure restoration of morphology, flow patterns and stability.
- Pre-construction ground contours and drainage patterns in the buffer area will be restored to their approximate original condition.
- Re-establishment of forest and shrub vegetation in Highlands Open Waters Buffers using a combination of plantings with native species only, and natural, successional processes.
- Restoration planting within Highlands Open Waters Buffers.
- Monitor the Highlands Open Waters Buffers re-vegetation efforts annually for a minimum of three years after construction and until wetland re-vegetation is successful.

STEEP SLOPES:

The applicant commits to avoid steep slopes where possible; minimize workspace areas within steep slope areas; and use specialized construction techniques including:

- In the areas of construction where the slope exceeds 20% or more, a special means of manipulating the construction equipment will be utilized. The preferred method will be “winching” the equipment. This process consists of placing and anchoring a tractor at the top of the slope and using a winch to manipulate the equipment up and down the slope.
- Use of advanced techniques in silt fencing and strong materials to avoid undercutting, toppling or splitting of the fence, including during severe weather events. Where necessary, use multiple lines of silt fencing, especially near water bodies.
- When impacts to steep slopes are unavoidable, emphasize disruption of the least sloped areas over the more steeply sloped areas.
- Minimize length of traverse across steep slopes while controlling erosion/disruption potential (i.e., having a short traverse down a severe slope may be more disruptive than a longer traverse that avoids the steep slope).
- Strictly limit vegetation removal on either side of access roads in steep slope areas.
- Diffusion of stormwater flow in sloped areas will be emphasized using measures appropriate to rural areas, such as slope intercepts and off-flow points and swales. **Special emphasis will be placed on diffusions of flows toward lakes and streams directly downgradient.**

- During grade restoration, the spoil will be placed back in the cut and compacted. Any springs or seeps found in the cut will be carried down-slope through PVC pipe or gravel French drains installed as part of the cut restoration.
- In areas of rugged topography, ROW restoration will begin within 10 days of final pipeline installation to minimize potential erosion and sedimentation control problems.

CRITICAL HABITAT:

The applicant provided general rare species mitigation measures as well as some species-specific measures in the CMP. With respect to the general measures, the applicant will:

- Continue on-going coordination with the Natural Heritage Program (NHP) and the Endangered and Non-Game Program biologists within NJDEP, the Highlands Council, and the US Fish and Wildlife Service (USFWS) through the permitting and construction of the project to avoid, minimize and mitigate for impacts on sensitive species including rare, threatened or endangered species.
- Ensure that the Environmental Inspector (EI) job responsibilities include understanding and implementing the components of the federal and state-listed threatened and endangered species mitigation measures. Revise the CMP to explicitly include measures for rare species.
- Require all field personnel to complete an environmental training session during which they will be advised on the potential presence of applicable species, specified habitats where they are likely to be found, visual or other identifying features, and specific activity protocols to be followed.
- Provide mitigation for each species' habitat that is permanently disturbed through construction activities. Mitigation will be four-part and account for no net loss of habitat value in terms of quality, quantity, type and function, and is not injurious to occurrences of rare plant species or rare ecological communities. With respect to temporary impacts, the applicant has committed to acquire and preserve mature upland forest to offset impacts to this habitat.
- Conduct a field survey of the project area, which includes an inventory of rare plant species (in cooperation with NJDEP's Natural Heritage Program).
- Revise the CMP to explicitly address the effects of temporary factors related to construction such as noise, increased air emissions, etc., and measures to address impacts to rare, threatened and endangered species.

To avoid impacts to upland dispersal and overwintering habitat within the 1,000-foot vernal pool buffer:

- Construction timing shall avoid disruption of propagation and migration of vernal pool species.
- Installation of silt fence along the temporary workspace shall prevent dispersal of individuals into the construction area, and daily sweeps of the construction workspace remove any individual frogs or salamanders.
- Placement of wood debris on the ground within the restored temporary workspace shall provide for escape cover and overwintering habitat post-construction per landowner agreements.

PROTECTION OF WATER RESOURCES QUANTITY:

Estimated *permanent* disturbance of **9.9 acres** and *temporary* disturbance of **52.4 acres**. Total of approximately 62 acres providing an estimate of 22 million gallons per year of recharge (0.35 million or 355,000 gallons/year per acre). With respect to these impacts, the applicant proposes to achieve:

- Restoration of the site to maintain pre-construction hydrology.
- Use of slope and trench breakers to slow down the flow of water and increase stormwater infiltration.
- Identify and mitigate soil compaction.
- Mitigate for an additional 25% of recharge volume to ensure no net loss, by acquiring and protecting an equivalent area of land (estimated to be at minimum 16 acres) within a designated Prime Ground Water Recharge Area.

HISTORIC, CULTURAL, ARCHAEOLOGICAL, AND SCENIC RESOURCES:

The applicant must continue to coordinate with the State Historic Preservation Office (SHPO) regarding the identification of archaeological resources (to address the issues identified in the December 29, 2011 correspondence from SHPO to FERC). The Highlands Council determination on this project is conditioned upon satisfaction of SHPO requirements.

ISSUE 2: 300 LINE PROJECT MITIGATION:

Clarification was requested regarding mitigation for the 300 Line project. It was suggested that lands of comparable resource value could not be found to ensure No Net Loss.

RESPONSE TO ISSUE 2:

The CMP for the 300 Line Project had the same components and specific provisions as presented above for the Northeast Upgrade Project CMP, except for the new requirement regarding unanticipated severe weather conditions. With respect to land acquisition for mitigation, the CMP for the 300 Line project required Tennessee Gas to acquire 74 acres of land for mitigation: a minimum of 38 acres for forest, a minimum of 23 acres for lands designated as a Special Environmental Zone (SEZ), and a minimum 13 acres for Prime Ground Water Recharge. To date, 86 acres have been purchased. For the forest mitigation, a 68-acre parcel was purchased to expand the Wallkill River National Wildlife Refuge. An 18-acre SEZ property was acquired in West Milford. The Performance Agreement requires the applicant to continue to search for equivalent lands to address the remaining 18 acres of mitigation lands and only where equivalent lands cannot be purchased to make a monetary contribution reflecting land values in that area of the Highlands Region. Use of the Highlands Council GIS layers will ensure that equal value lands from a resource perspective can be identified for purchase. The Highlands Council Staff is confident that equivalent lands will be discovered during this process.

ISSUE 3: FOR 300 LINE PROJECT - MONETARY CONTRIBUTION IN LIEU OF LAND ACQUISITION:

Commenters questioned the determination of monetary contribution for land acquisition for the 300 Line Project.

RESPONSE TO ISSUE 3:

For the Northeast Upgrade Project, the applicant has primary responsibility for acquiring mitigation lands. If the applicant indicates that suitable lands are not available, the Highlands Council will attempt to find suitable and available parcels for the applicant to purchase, before agreeing to accept monetary compensation. There is no agreed upon per acre cost for purchase of replacement land at this time for this Northeast Upgrade Project, assuming monetary compensation became necessary. This project is to the east of the 300 Line project and may have different comparable land values. Again, the important point is that if the applicant cannot find suitable lands to purchase, the Highlands Council will attempt to do so before agreeing to accept monetary compensation. Use of the Highlands Council GIS layers will ensure that equal value lands from a resource perspective can be identified for purchase.

ISSUE 4: PERFORMANCE BOND:

Concerns were raised about whether a performance bond would be established and if it would be at an adequate amount.

RESPONSE TO ISSUE 4:

A performance bond was provided by Tennessee Gas to the Highlands Council for the 300 Line Project to provide assurance that all of the mitigation requirements in the Highlands Comprehensive Mitigation Plan (CMP) would be satisfied. The amount was derived by estimating the cost of all the on-site restoration/monitoring requirements in the CMP for the 300 Line Project and providing a percentage of that estimate as a performance bond. Tennessee Gas is required to post a performance bond in the same manner for the NEUP, for an amount satisfactory to the Highlands Council.

ISSUE 5: ENVIRONMENTAL INSPECTION:

Concerns were raised about adequate training and qualifications for Environmental Inspector staff.

RESPONSE TO ISSUE 5:

Tennessee Gas commits in the Highlands Comprehensive Management Plan (as it did for the 300 Line Project) to provide the qualifications of Environmental Inspector (EI) staff to the Highlands Council staff prior to any construction activities. It is critical to note that the Federal Energy Regulatory Commission (FERC) hires these inspectors, independent of the applicant, and they are routinely on site. Daily reports are compiled and weekly summaries given to the Highlands Council. Tennessee Gas has indicated its willingness to coordinate with the Highlands Council and FERC to explicitly include quarterly monitoring of the Highlands CMP in FERC inspections. FERC has qualification standards for these Third Party Monitoring Program Contractors.

The EI staff will review all Project documents (right-of-way descriptions, permits, alignment sheets, and relevant plans) prior to construction. The EI staff does not direct construction, which is the responsibility of the applicant. During construction, the EI staff as well as other inspectors will be responsible for:

- Inspecting activities daily to verify and document that Contractors are complying with the Environmental Construction Plan (ECP) and the Highlands CMP, the Commission Certificate environmental conditions and mitigation measures, and applicable federal, state and local permit requirements and landowner agreements;
- Identifying, documenting, and overseeing corrective actions, as necessary to bring an activity back in to compliance;
- Verifying that the limits of authorized construction work areas and locations of access roads are properly marked before clearing;
- Verifying the location of signs and highly visible flagging marking the boundaries of sensitive resource areas, waterbodies, wetlands, or areas with special requirements along the construction work area;
- Ensuring that construction activities occur within authorized work areas;
- Identifying erosion/sediment control and soil stabilization needs in all areas;
- Ensuring that the location of dewatering structures and slope breakers will not direct water into known cultural resources sites or locations of sensitive species;
- Verifying that trench dewatering activities do not result in the deposition of sand, silt, and/or sediment near the point of discharge into a wetland or waterbody. If such deposition is occurring, the dewatering activity shall be stopped and the design of the discharge shall be changed to prevent reoccurrence;
- Ensuring that subsoil and topsoil are tested in agricultural and residential areas to measure compaction and determine the need for corrective action;
- Advising the Lead Environmental Inspector when conditions (such as wet weather) make it advisable to restrict construction activities in agricultural areas, steep slopes and open waters;
- Ensuring restoration of contours and topsoil;

- Verifying that imported soils used as fill and/or additional cover in sensitive areas (i.e., agricultural, residential and wetland areas) are from an approved source and have been certified as free of noxious weeds and soil pests, unless otherwise approved by the landowner; ensuring that the soil profile is restored as required;
- Determining the need for and ensuring that erosion controls are properly installed, as necessary to prevent sediment flow into wetlands, waterbodies, sensitive areas and onto roads;
- Inspecting and ensuring the maintenance of temporary erosion controls at least: a) on a daily basis in areas of active construction or equipment operation, b) on a weekly basis in areas with no construction or equipment operation; and c) within 24 hours of each 0.5 inches of rainfall;
- Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification;
- Keeping records of compliance with the environmental conditions of the FERC Certificate, and the mitigation measures proposed by the Project sponsor in the application submitted to the FERC, and other Federal or state environmental permits and approvals during active construction and restoration;
- Photo-documenting sensitive areas and workspaces before, during, and after construction;
- Documenting activities with daily logs, weekly reports, and other required documentation;
- Identifying areas that should be given special attention to ensure stabilization and restoration after the construction phase.
- Coordinating and/or performing updated environmental training as new contracted personnel begin working on construction;
- Educating other inspectors on Project specific environmental concerns;
- Monitoring waste collection and disposal;
- Identifying potential problems and initiating appropriate actions prior to occurrence; and
- Working with water and wetland resource agencies to assure the Environmental Construction Plan and CMP are properly implemented.

ISSUE 6 PAST PERFORMANCE – 300 LINE PROJECT:

Concerns were stated regarding construction and restoration efforts conducted to date on the Tennessee Gas 300 Line Project and whether these efforts were consistent with Tennessee Gas commitments.

RESPONSE TO ISSUE 6:

Construction of the 300 Line Project was conducted within permitted and approved workspace, including both the right of way and staging/workspace areas. FERC, NJDEP, and County Soil Conservation District personnel all participated in the monitoring of construction, which included ensuring that Tennessee contractors stayed within the approved and permitted workspace for the 300 Line Project. Areas perceived by commenters as being greater than the right-of-way widths were approved equipment staging areas, which do extend beyond the normal right of way. During October and November of 2011, Tennessee contractors, under the directive of the Hudson-Essex-Passaic Soil Conservation District (HEPSCD), performed mass revegetation efforts by seeding and mulching the entire project disturbance (with monitoring and revegetation efforts to continue in spring 2012). In a letter dated January 26, 2012 regarding the 300 Line Project, the HEPSCD Manager stated “Agents of this office have performed countless hours of inspection since the project has commenced soil disturbing activities and offered additional direction to maintain proper erosion control compliance...In an effort to further control erosion, the applicant, environmental compliance agents, and contractors did an exemplary job with initial installation of all erosion control measures which this agency field verified on many occasions. Additional protective measures were added in critical areas to augment the measures shown on the approved erosion control plan.”

The 300 Line Project received two Notices of Violation (NoV) from the NJDEP (both related to the significant rain events in August 2011 that are discussed more fully below), which were satisfactorily resolved (one NoV is closed the other remains open and will not be closed until all areas are stabilized which will require one to two growing seasons)- no penalties were imposed by NJDEP. NJDEP Compliance & Enforcement informs us that Tennessee Gas has responded quickly and thoroughly to any and all issues.

ISSUE 7 PROJECT NEED:

Questions were raised as to need of the Northeast Upgrade Project.

RESPONSE TO ISSUE 7:

The Highlands Council has no jurisdiction regarding this issue, and defers to FERC regarding a determination as to whether this project is needed for the integrity of New Jersey's or the region's energy system. If FERC determines that the project is not needed, then any Highlands Council (and NJDEP) actions regarding Exemption #11 and permit reviews will be considered moot. FERC has sole jurisdiction over the needs analysis for this pipeline project. Tennessee Gas has provided a statement of need which was filed with FERC as required and FERC will make their determination.

Highlands Council staff is providing a summary of the Tennessee Gas statement of need as a courtesy to respond to the issue as raised by the public but this matter will not be discussed by Highlands Council as it is not part of the pending application for an Exemption nor is it a matter under Highlands Council jurisdiction. This matter is solely under the jurisdiction of FERC.

The statement of need asserts that there are five factors demonstrating the need for incremental pipeline capacity into New Jersey and the Northeast: 1) the decline of gas supplies available from Canada for export to the U.S.; 2) the national priority to reduce reliance on foreign energy imports including oil and liquefied natural gas ("LNG") in favor of domestic production; 3) the need to reduce pipeline capacity constraints that currently restrict new domestic natural gas supplies in the western portion of the northeastern U.S. from accessing the high consumption areas along the Atlantic Coast; 4) growth in the major market centers of the Northeast U.S. which have significantly higher natural gas demand growth rates than the western sectors of that region and 5) consistency with the New Jersey State Energy Master Plan which addresses the importance of clean, reliable natural gas supplies to the economic vitality of the State. Each of these factors is summarized below. Please note that the Highlands Council and staff express no opinions or conclusions regarding this information, which is derived directly from the Tennessee Gas statement of need and will be used by FERC in their determination.

Canadian Exports

Canadian exports to the U.S. have been declining for the last several years due to reduced production in the Western Canadian Sedimentary Basin and increased Canadian consumption, predominantly in the oil sands producing region of Alberta. The reduction in U.S. imports from Canada means there will be a need to re-supply New Jersey and the Northeastern states from other sources. The Northeast Upgrade Project will help to offset the loss of supply from Canada since it will provide additional capacity on the Tennessee Gas Pipeline system with access to new Appalachian supplies, Gulf Coast area shale production, and Rocky Mountain supply (via the Rockies Express Pipeline interconnect with Tennessee in Ohio).

Reduction of Foreign Purchases of Liquefied Natural Gas (LNG)

Each year the Energy Information Administration ("EIA") releases the Annual Energy Outlook with projections for U.S. energy markets. Back in 2005, the EIA projected in their outlook that LNG imports would average nearly 12 billion cubic feet per day (Bcf/d) in 2015. The locations of LNG terminals that receive the imported gas include the northeastern U.S. The recent increase in domestic production, and resulting lower prices in relation to other global markets, has markedly changed views on the need for these LNG imports. EIA's outlook for 2015 LNG imports has changed each year since 2005. The 2012 edition now has 2015 LNG imports at less than 0.75 Bcf/d. To achieve this benefit of reduced reliance on imported

gas, domestic supplies must have a way to reach the demand centers, and incremental pipeline capacity is required to accomplish this transportation of gas supplies. Tennessee's Northeast Upgrade Project is consistent with this objective.

Reduction of Pipeline Constraints into the Northeast

Currently, there is approximately 7 Bcf/d of pipeline capacity on four interstate pipelines, including Tennessee, to transport gas through Pennsylvania from upstream out of state sources into New Jersey. All four pipelines are currently fully subscribed in this region during the peak heating season.

The supply sources available to Northeast markets have expanded with recent pipeline expansions from the Rocky Mountain production area as well as production in the western part of the Northeast region. Increased regional demand coupled with the current constrained pipeline capacity will only combine to further constrain pipeline capacity in the Northeast. Peak day volumes are partially met through the use of underground storage. The inherent geological conditions in New England, New Jersey and the eastern portions of New York and Pennsylvania prevent the development of underground storage of natural gas volumes locally. Even when underground storage in northwestern Pennsylvania and New York is used to meet peak day requirements for the Northeast region, pipeline capacity must be used to reach the market. Any further development of underground storage fields will also require more pipeline capacity to meet current and projected future demand. Construction of the Northeast Upgrade Project will help alleviate this situation by increasing pipeline capacity to these high demand markets and allow these markets access to gas currently on the other side of the constraints. The reliability of transportation of gas supplies will also be improved through construction of the project.

Market Growth

The New Jersey and East Coast markets are predicted to have substantial increases in average day and peak day natural gas demand that will require additional delivery capacity. The Q4 2011 Reference Case model from ICF International projects that the Middle Atlantic census region (NJ/NY/PA) will have natural gas demand growth of 2.6 Bcf/d between 2010 and 2020. The majority of this demand growth will come from increased natural gas usage for power generation, with part of the growth due to the switch from coal-fired generation for environmental reasons. For example, construction of a 783 megawatt, natural gas-fired power plant was initiated in West Deptford, NJ, on February 9, 2012.

The Northeast Upgrade Project will provide a means to fulfill the growing New Jersey demand. Upon completion, the Project will increase natural gas delivery capacity to the northeast region of the United States by approximately 636,000 dekatherms per day (Dth/d). In addition, the proposed general system upgrades that are part of the project will improve system reliability. The Project will also assist with the FERC's goal of providing more natural gas to markets. The Northeast Upgrade Project provides access to diversified natural gas supplies from major supply basins accessed by Tennessee with deliveries to points located across Tennessee's mainline system, including various interconnections with other pipelines in Mahwah, New Jersey.

Consistency with the New Jersey State Energy Master Plan

The goals of New Jersey's Energy Master Plan ("EMP") require long-term actions, as well as immediate investments "that will help to ease energy costs in the short term, create jobs, grow energy businesses, and establish the clean energy industry as a cornerstone of the State's economy." The EMP focuses on actions that will result in a future of reliable and competitively priced supplies of electricity and heating fuels that also meet the State's environmental needs. Tennessee's Northeast Upgrade Project is consistent with the goals and actions directed of the EMP. The Project will provide increased reliability, diversified natural gas supply sources, and increased price competition, which benefits New Jersey's utilities and their consumers. As recognized in the EMP, over 50 percent of existing power plants are 30 years old or older and are like to retire as they continue to age. The EMP noted that those plants tend to be "less reliable, less efficient, more expensive to run, and have greater greenhouse gas emission rates than newer plants." The Project will provide additional natural gas supply in the northeast region to meet the growing demand for natural-gas fueled

power plants predicted to be constructed in response to the effort to lower greenhouse gas emissions, and therefore reducing reliance on coal-based electricity and imports of out-of-state dirty electricity.

ISSUE 8 NUMEROUS COMMENTS ON FERC ENVIRONMENTAL ASSESSMENT (EA):

Concerns were stated regarding the numerous comments FERC received on the EA for the Northeast Upgrade Project. Of particular note are claims of a lack of field surveys.

RESPONSE TO ISSUE 8:

Tennessee Gas has prepared a summary of the substantive comments provided by NJDEP on the EA, as well as the Tennessee Gas responses. Highlands Council staff find that the great majority of the responses provided by Tennessee Gas should address and satisfy the NJDEP comments. For threatened and endangered species surveys that were conducted along Loop 325, reports were provided to the Highlands Council in December 2011 (the reports are marked confidential in order to protect the species). A Phase II Archaeological Survey was also provided to the Council. It is critical to reiterate that the CMP will be effectuated through site plans, construction designs and permit reviews by various agencies. The CMP does constitute a construction-ready document and only through the preparation of detailed permit applications will these issues be fully addressed. NJDEP will address specific impacts to Highlands resources through the permitting process.

ISSUE 9 INVASIVE SPECIES MANAGEMENT:

It was stated that there is no consideration of invasive species management or deer browsing effects on restoration.

RESPONSE TO ISSUE 9:

Tennessee Gas has developed the Highlands Council required program for Invasive Species Management, presented in the Comprehensive Mitigation Plan (CMP). To summarize, it states how Tennessee Gas will control the spread of invasive species within the right-of-way during construction and after construction, with a comprehensive monitoring and removal program. During construction, the contractor will be responsible to ensure that all vehicles and equipment are washed before being brought on-site and before being moved around the Project Area. High pressure wash stations will be established by the contractor in selected areas to remove vegetation debris from the vehicles and equipment before being relocated. After construction, the specific objective of invasive species management is to control invasive plant species by means of limited herbicide used in concert with other control methods such as mechanical removal, mowing and cutting, if necessary. The rationale for controlling invasive species with herbicides is to ensure that the existing ecosystem is not compromised by the colonization and dominance of these species. Tennessee's certificate application to FERC for the Project includes a Draft Invasive Species Management Plan. That plan is intended to serve as a guideline for the eradication and/or control of invasive plant species that occupy the Project area and provide the necessary tools for successful eradication and/or control of invasive species. That plan is subject to modifications as data collection warrants. Invasive species management will be conducted on the permanent pipeline easement as well as in temporary workspace areas, unless otherwise requested by the landowners. The CMP presents a listing of invasive species that may potentially be present within the Project area:

- Norway Maple (*Acer platanoides*)
- Tree-of-heaven (*Ailanthus altissima*)
- Garlic mustard (*Alliaria petiolata*)
- Porcelain berry (*Ampelopsis brevipedunculata*)
- Japanese barberry (*Berberis thunbergii*)
- Asian bittersweet (*Celastrus orbiculatus*)

- Spotted knapweed (*Centaurea biebersteinii*)
- Canadian thistle (*Cirsium arvense*)
- Wild teasel (*Dipsacus fullonum*)
- Cut-leaf teasel (*Dipsacus laciniatus*)
- Autumn olive (*Elaeagnus umbellata*)
- Winged spindletree (*Euonymus alata*)
- Chinese bush-clover (*Lespedeza cuneata*)
- Japanese honeysuckle (*Lonicera japonica*)
- Morrow's Bush-honeysuckle (*Lonicera morrowii*)
- Tartarian Honeysuckle (*Lonicera tatarica*)
- Purple Loosestrife (*Lythrum salicaria*)
- Yellow sweetclover (*Melilotus officinalis*)
- Japanese stiltgrass (*Microstegium vimineum*)
- Eurasian water-milfoil (*Myriophyllum spicatum*)
- Common reed also called Phragmites (*Phragmites australis*)
- Japanese knotweed (*Polygonum cuspidatum*)
- Mile-a-minute (*Polygonum perfoliatum*)
- Curly leaf pondweed (*Potamogeton crispus*)
- Common buckthorn (*Rhamnus cathartica*)
- Black locust (*Robinia pseudoacacia*)
- Wineberry (*Rubus phoenicolasius*)
- Multiflora rose (*Rosa multiflora*)

FERC will conduct post-construction monitoring of all areas affected by construction for a minimum of three years or until success criteria are met. Further, monitoring will be conducted specifically to ensure that the measures outlined in the Highlands CMP are met. As was done for the 300 Line project the Highlands Council will be sent weekly reports and there shall be quarterly reporting to the Highlands Council regarding the CMP components.

ISSUE 10 PIPELINE ROUTE IN RELATION TO FAULT LINE (RAMAPO FAULT):

Concern was expressed about the potential impacts of pipeline failure in the event of an earthquake.

RESPONSE TO ISSUE 10:

A Geological Resource Report was prepared for Tennessee Gas for the proposed Northeast Upgrade Project, which includes a discussion of fault lines and seismic risk. In summary, the report (which includes numerous citations not presented herein) states that according to the New Jersey State Geologist, there are no active faults in New Jersey; however, Loop 325 does cross many significant faults that have no recent (i.e., in the last few tens of thousands of years) documented movement. Review of the New Jersey Geologic Survey Faults digital data layer indicates there are several fault lines along Loop 325. The Ramapo Fault is the most well known fault in New Jersey, and is located approximately at the southeast terminus (i.e., Mahwah Metering Station) of Loop 325. The Ramapo Fault separates the Highlands and Piedmont Physiographic Provinces and numerous minor earthquakes have been recorded in the Ramapo Fault Zone, a ten- to 20- mile- wide area adjacent to, and west of, the Fault. However, east of the Rocky Mountains, earthquake faults break the ground surface very rarely, and the presence or absence of mapped faults denotes neither a seismic hazard nor the absence of one in New Jersey. Additionally, the seismic hazard in the area is relatively low, and most earthquakes in the region are too small to be felt or to cause damage, and most earthquakes large enough to be felt are still too small to cause damage.

Further, it is important to note that control valves are placed at 8-mile intervals on the new lines – flow of gas would be terminated automatically in the event that sensors detect a drop in pressure due to a line leak. In addition, there are sensors on the new lines such that if the system senses a change in pressure that is not planned, it will trigger a response from gas control and be closed. Because the parallel lines are tied together at the control valves, they can control flow on either loop. Accordingly, there is a control valve every 8 miles that can be automatically closed if there is an unexpected change in pressure.

ISSUE 11 BENEFITS FOR THE STATE OF NEW JERSEY:

Comments were made that the proposed pipeline will deliver natural gas to other states while providing no benefits to the State of New Jersey. Additionally, a comment was made that it appeared that none of the construction crew were from New Jersey so there would be no direct benefit to the New Jersey economy. Other commenters expressed support for the jobs that would be created by the project and stated that the project constructed to date has already been advantageous to New Jersey workers.

RESPONSE TO ISSUE 11:

The Bloustein School (Rutgers University) prepared an Economic Analysis of the Northeast Upgrade Project in New Jersey and Pennsylvania in March 2011. Based on the proposed project expenditures (\$63.3 million) and employment, the economic benefits of the proposed project in New Jersey are estimated to be: 1) 695 one-time job years (a job-year is the equivalent of one full-time job lasting a single year); 2) \$36.6 million in New Jersey income; and 3) \$50.1 million in New Jersey gross state product. With respect to taxes, it is estimated that the construction project in New Jersey would generate \$12.8 million in federal tax revenues, \$2.9 million in state tax revenues, and \$2.4 million in local tax revenues. These benefits are associated with the construction project. Tennessee's pipeline system provides natural gas supply to local distribution companies in New Jersey including PSE&G, New Jersey Natural Gas, Elizabethtown Gas, and other suppliers.

With respect to the comment that it appeared that none of the construction crew were from New Jersey so there would be no direct benefit to the New Jersey economy, by national union agreement, no more than 50 percent of workers are permitted to be brought in from out of state. It is estimated that 450 temporary construction jobs were created by the 300 Line Project construction project, with over 60% of those being New Jersey workers; approximately the same is anticipated for NEUP.

ISSUE 12 EXTREME WEATHER EVENTS IN SUMMER AND FALL 2011 – 300 LINE IMPACTS:

The extreme weather patterns in 2011 (i.e., Hurricane Irene, the remnants of Tropical Storm Lee and in general unprecedented rainfall amounts) were noted. Questions were raised if the 300 Line should have had more protective soil and erosion control measures. Similar concerns were expressed for proposed Northeast Upgrade Project.

RESPONSE TO ISSUE 12:

The approved soil erosion and sediment control measures for the 300 Line Project were significantly enhanced during proactive planning stages prior to Hurricane Irene and other forecasted significant rainfall events. These enhanced measures included installing additional slope breakers in steep areas of the right-of-way, reinforcing and adding to the existing environmental control devices including silt fences, hay bales, and turbidity curtains; and staging response equipment at more sensitive locations. In addition, Tennessee Gas delayed some work and accelerated other work to minimize open work areas during the storm periods. Post-storm clean-up of the affected 300 Line Project sites was conducted as soon as conditions were such that it was safe to do so, under direct supervision by FERC, NJDEP and the Soil Conservation Districts.

As previously noted, the 300 Line Project received two Notices of Violation (NoV) from the NJDEP (both related to the significant rain events in August 2011). One NoV concerned Special Condition 37 of the

Individual Flood Hazard Permit in that the applicant failed to remove the temporary bridge over the Wallkill River prior to a high flow event. The River had crested its channel banks and overtopped the bridge. Tennessee Gas immediately removed the bridge until waters returned to a mean high level and committed to removing all temporary bridge structures prior to future high flow events. NJDEP noted that the issue was satisfactorily resolved - no penalties were imposed by NJDEP and the case was closed. The other NoV was associated with the 300 Line Project crossing of Bearfort Waters, west of Clinton Road. Following a significant rain event on August 15, 2011 Tennessee Gas implemented several corrective actions at the site which included shutting down construction activities in the area until conditions improved, repairing and placing additional turbidity curtains, and adding additional erosion controls. NJDEP noted that Tennessee Gas will continue to employ Best Management Practices in accordance with the Environmental Construction Plan and applicable permits and that erosion controls will continue to be monitored and maintained. NJDEP notes that there is no "closure" letter with respect to this NoV as the project will remain "active" until such time as the site is fully stabilized. As previously noted, NJDEP Compliance & Enforcement informed us that Tennessee Gas responded quickly and thoroughly to any and all issues. Further, as previously noted, soil erosion and sediment control measures and environmental inspection efforts were recognized as being "exemplary" by the HEPSCD Manager (letter dated January 26, 2012).

With respect to concerns expressed specifically about Lake Lookover, the significant rain event that occurred in August 2011 as discussed above, resulted in turbidity curtains being overwhelmed and considerable silt entering the lake. However, based on turbidity measurements taken by Environmental Inspectors, turbidity levels had returned to estimated pre-event levels by the following month. Turbidity levels were measured daily at Lake Lookover by Environmental Inspectors from September 1 through September 17, 2011. The average measurement during that time was 18.9 NTU (nephelometric turbidity units). The average measurement in January 2012 was 9.5 NTU. To put these measurements in perspective, lakes that are considered relatively clear in the United States can have a turbidity up to 25 NTU (Nathanson, Jerry A. (2003). Basic Environmental Technology: Water Supply, Waste Management, and Pollution Control. Upper Saddle River, New Jersey: Prentice Hall).

Finally, it is important to note that the Highlands Council added as a new condition of approval of the exemption that the applicant shall assess the potential impacts of foreseeable but low-probability events, such as major weather or other catastrophic events, including but not limited to impacts such as slope failure, failure of sediment and erosion control measures, and silt and mud deposition into lakes and other waterbodies. As part of this condition, the CMP shall include a contingency plan to address such foreseeable but low-probability events and their impacts, including pre-planning, event management and restoration. These requirements were not a component of the consistency determination for the 300 Line project, and are a direct response to the problems resulting from the major storms of 2011.

ISSUE 13 300 LINE CONSTRUCTION OUTSIDE OF PERMITTED WORKSPACE:

Public comments suggested that workspace was used outside of what Tennessee Gas was permitted to use for the 300 Line Project.

RESPONSE TO ISSUE 13:

As discussed above with respect to Past Performance for the 300 Line Project, construction of the 300 Line Project was conducted within permitted and approved workspace (including work staging areas, which are often beyond the pipeline right of way and are depicted on the approved site plans), and in some instances Tennessee Gas did not utilize all permitted workspace. FERC, NJDEP, and County Soil Conservation District personnel all participated in the monitoring of construction, which included ensuring that Tennessee contractors stayed within the approved and permitted workspace for the 300 Line project.

ISSUE 14 MONKSVILLE RESERVOIR:

Concerns were raised about the potential impact of the project on the Monksville Reservoir which supplies drinking water to millions of residents.

RESPONSE TO ISSUE 14:

It is important to note at the outset that an existing 24-inch diameter natural gas pipeline in the existing right-of-way was installed in the mid 1950s. The Monksville Reservoir was constructed over that pipeline in 1987, and the pipeline has continued to operate safely since that time. The NEUP pipeline upgrade will traverse the area under the Monksville Reservoir using Horizontal Directional Drilling (HDD), which is far less disruptive of the reservoir than trenching through the reservoir bottom. It should be noted that this segment of the NEUP was already approved by the Highlands Council as part of the previous 300 Line approval; the proposal before the Highlands Council shifts this segment from the 300 Line Project to the NEUP but is otherwise unchanged. The objective is placement of the pipeline without discharge to, or disruption of, the reservoir itself. Stringent controls will be implemented to protect the Monksville Reservoir. Tennessee Gas has prepared an HDD Contingency Plan for NEUP. NJDEP will have direct permitting responsibility for this phase of the project.

ISSUE 15 MARCELLUS SHALE:

Concerns were raised about drilling in Marcellus Shale and the fracking (hydraulic fracturing) procedure to extract gas from shale.

RESPONSE TO ISSUE 15:

The extraction of natural gas is not a proposed project element, nor does the applicant engage in such extraction. Rather, the applicant is an interstate carrier. The Highlands Council has no jurisdiction beyond consideration of the Exemption for the pipeline.

ISSUE 16 NEUP NOT APPROVED BY FERC:

At issue is that the NEUP has not yet been approved by FERC.

RESPONSE TO ISSUE 16:

The Northeast Upgrade Project is under the jurisdiction of several regulatory programs, each of which has its own processes and procedures for review and decision-making. Federal agencies with jurisdictional authority for this project are FERC, the US Army Corps of Engineers (COE), and the US Fish and Wildlife Service (USFWS). Concurrent reviews allow for minimization of the overall review period and project costs. New Jersey State agencies include the NJDEP (various programs), the Highlands Council, and County Soil Conservation Districts. The National Environmental Policy Act (NEPA) requires FERC to take into account the environmental impacts that could result from an action whenever it considers the issuance of a Certificate of Public Convenience and Necessity. As such, FERC is the lead federal agency for the preparation of an Environmental Assessment (EA) for this project, in compliance with NEPA. The public comment period for review of the EA commenced on November 21, 2011 and ended on December 21, 2011. FERC is finalizing the EA. The EA process will conclude with either a finding that the project can be sufficiently mitigated to support a Finding of No Significant Impact or a determination to proceed to preparation of an Environmental Impact Statement. When filing with FERC the filing process requires “the project proponent to begin working as soon as possible with the relevant participating agencies to enable them to identify resources and begin their analyses of the project, including identifying any cost recovery procedures.”

Tennessee Gas submitted its application to the Highlands Council for Exemption #11 on July 8, 2011. Thus, the application has been before the Council for over six months. Exemption reviews are typically completed by the Council in a timely fashion. Of greater importance is that a decision by the Highlands Council will enhance the potential for FERC to incorporate Highlands Council and other agency mitigation requirements

(including the CMP) into their decision-making document with its own mitigation requirements. NJDEP has a pending application for an Exemption #11 in the Highlands Preservation Area for this project. The Highlands Council decision is provided to NJDEP as advisory on consistency with the goals and purposes of the Highlands Act. Highlands Council decision is needed in advance of the NJDEP Exemption determination. Further, the applicant cannot apply to the NJDEP for requisite land use regulation permits prior to the Exemption determination.

ISSUE 17 HIGHLANDS COUNCIL SITE INSPECTION:

Concerns were raised about the need for the Members of the Highlands Council to conduct a site inspections to investigate the measures taken to date by Tennessee Gas. On February 3, 2012, Sierra Club wrote the Highlands Council expressing concern regarding any site inspection.

RESPONSE TO ISSUE 17:

In response to public comments on the need to visit the project site, several members of the Highlands Council requested a site inspection of the project at the January 19, 2012 Council meeting. An organized site inspection was held on February 6, 2012. The site inspection for this project was conducted in accordance with the Open Public Meeting Act, N.J.S.A. 10:4-6 et seq., and the Highlands Water Protection and Planning Act, N.J.S.A. 13:20-1 et seq. (Highlands Act).

In accordance with the Highlands Act, the Highlands Council is provided the power, duty and responsibility, in N.J.S.A. 13:20-6.1, to conduct examinations and investigations on any matter. Under the Municipal Land Use Law, planning and zoning boards enlist the services of board members to conduct site inspections. Site inspections by board members has been approved by the New Jersey Supreme Court in *Giordano v. City Comm'n of City of Newark*, 2 N.J. 585 (1949). In *Baghdikian v. Board of Adjustment, Borough of Ramsey*, 247 N.J. Super 45 (App.Div.1991), the Appellate Division held that it is “preferable that prior notice of the intended site inspection be given at the hearing, if practicable, in order to afford the applicant and interested parties an opportunity to prepare a response to the knowledge gained by the board member as a result of the inspection. However, we do not deem the failure to give notice as fatal when the board member makes a complete disclosure of his or her knowledge of the site condition gained by the inspection, and the applicants and objectors are given full opportunity to address the board member's comments.” Id at 52. In addition, the Appellate Division in *Smith v. Fair Haven Zoning Bd.*, 335 N.J. Super 111 (App. Div. 2000, cautioned board members not to “engage in ex parte discussions with interested parties concerning the merit or lack of merit of a particular application during a visit to the site.” Id at 116.

The February 6, 2012 site inspection was conducted in accordance with the Open Public Meeting Act as six Members, less than a quorum, were able to attend. Highlands Council staff accompanied another Council member on a site visit on February 8th. Another Council member reported to the Executive Director that he had visited the site on his own. The Highlands Council will report out the results of the site inspection to the full Highlands Council at the February 16, 2012 meeting in order to ensure that the site visit is on the public record and that the public has an opportunity to address any comments by Council Members.
